

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended): A multi-wavelength laser device configured for use with an optical system, the laser device comprising at least two of a blue laser diode, a red laser diode, and an infrared laser diode, which are arranged on the same base to emit in at least approximately a same light emitting direction, wherein

laser light emission points of the laser diodes are arranged with one behind another in the light emitting direction in order of wavelengths of the laser diodes with the laser emission point of the shortest wavelength laser diode positioned farthest in the light emitting direction and with spacings between the laser emission points in the light emitting direction that compensate for a wavelength dependence of a focal length of the optical system.

Claim 2 (previously presented): The multi-wavelength laser device according to claim 1, wherein

said at least two laser diodes are formed monolithically on the same substrate.

Claim 3 (previously presented): The multi-wavelength laser device according to claim 1, wherein

said at least two laser diodes are mounted on said base using respective solders with different melting points.

Claim 4 (previously presented): The multi-wavelength laser device according to claim 1, wherein

said base is provided with a cut for ensuring passage of laser light from each of said laser diodes.

Claim 5 (previously presented): The multi-wavelength laser device according to claim 2, wherein

said substrate is provided with a cut for ensuring passage of laser light from each of said laser diodes.

Claim 6 (previously presented): The multi-wavelength laser device according to claim 1, wherein

each of said diodes is mounted with its p-side down.

Claim 7 (currently amended): A method of manufacturing ~~[[the]]~~ a multi-wavelength laser device, the method comprising: of claim 1, wherein

arranging at least two of a blue laser diode, a red laser diode, and an infrared laser diode on a same base to emit in at least approximately a same light emitting direction;

wherein laser light emission points of the laser diodes are arranged with one behind another in the light emitting direction in order of wavelengths of the laser diodes with the laser emission point of the shortest wavelength laser diode positioned farthest in the light emitting direction and with spacings between the laser emission points in the light emitting direction that compensate for a wavelength dependence of a focal length of the optical system; and

wherein said at least two laser diodes are mounted on said base using solders with respective different melting points in decreasing order of the melting points.

Claim 8 (currently amended): ~~The multi-wavelength laser device according to claim 1,~~
~~wherein~~ A multi-wavelength laser device comprising at least two of a blue laser diode, a red laser diode, and an infrared laser diode, which are arranged on the same base to emit in at least approximately a same light emitting direction, wherein

laser light emission points of the laser diodes are arranged with one behind another in the light emitting direction in order of wavelengths of the laser diodes with the laser emission point of the shortest wavelength laser diode positioned farthest in the light emitting direction;

a first one of the laser diodes and a second one of the laser diodes are arranged with the laser emission point of the first laser diode a distance L behind the laser emission point of the second laser diode, and with the laser emission point of the first laser diode a distance W from the second laser diode in a direction perpendicular to the light emitting direction in a horizontal plane parallel to the base;

$$W \geq L \times \tan(\theta/2);$$

and $\theta/2$ is the divergence angle in the horizontal plane of a light beam emitted by the first laser diode.

Claim 9 (new): The multi-wavelength laser device according to claim 8, wherein said at least two laser diodes are formed monolithically on the same substrate.

Claim 10 (new): The multi-wavelength laser device according to claim 8, wherein said at least two laser diodes are mounted on said base using respective solders with different melting points.

Claim 11 (new): The multi-wavelength laser device according to claim 8, wherein

said base is provided with a cut for ensuring passage of laser light from each of said laser diodes.

Claim 12 (new): The multi-wavelength laser device according to claim 9, wherein said substrate is provided with a cut for ensuring passage of laser light from each of said laser diodes.

Claim 13 (new): The multi-wavelength laser device according to claim 8, wherein each of said diodes is mounted with its p-side down.

Claim 14 (new): A method of manufacturing a multi-wavelength laser device, the method comprising:

arranging at least two of a blue laser diode, a red laser diode, and an infrared laser diode on a same base to emit in at least approximately a same light emitting direction; wherein

laser light emission points of the laser diodes are arranged with one behind another in the light emitting direction in order of wavelengths of the laser diodes with the laser emission point of the shortest wavelength laser diode positioned farthest in the light emitting direction;

a first one of the laser diodes and a second one of the laser diodes are arranged with the laser emission point of the first laser diode a distance L behind the laser emission point of the second laser diode, and with the laser emission point of the first laser diode a distance W from the second laser diode in a direction perpendicular to the light emitting direction in a horizontal plane parallel to the base;

$$W \geq L \times \tan(\theta/2);$$

$\theta/2$ is the divergence angle in the horizontal plane of a light beam emitted by the first laser diode; and

wherein said at least two laser diodes are mounted on said base using solders with respective different melting points in decreasing order of the melting points.